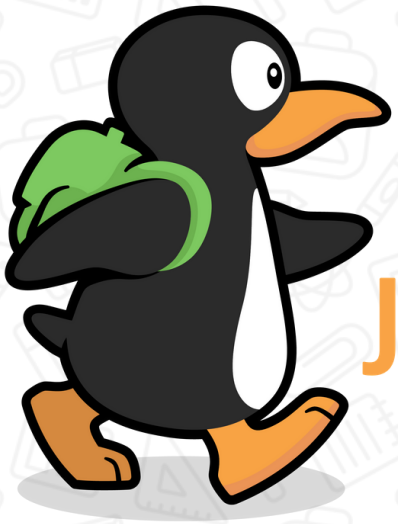

SCOPE & SEQUENCE
WITH STANDARD ALIGNMENT

- GRADES K–5 -
TEXAS

ST Math®
Created by MIND Research Institute

ST16-220728

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Numbers and Objects to 5

Standards Coverage:

Recommended: K.2.D

Related: K.2.A, K.2.B, K.2.C, K.2.E

Game Name	Game Description
Dot Count	Count the number of objects that appear in a set by clicking on each object once. Students learn to count to five.
Match Count	Match a given set of shaded circles with a set of empty circles. This game teaches counting and one-to-one correspondence.
How Many Legs	Provide the correct number of shoes for each set of creatures.
Dot Count Symbolic	Count the number of objects that appear in a set by clicking on each object once.
Ten Frame Count	Relate numerical symbols (1-5) to their representations with ten frames.

Subitizing

Standards Coverage:

Recommended: K.2.D

Game Name	Game Description
Subitizing Finger Patterns	Match the number of fingers being held up. Teaches visual representations of numbers up to 5.
Subitizing Fingers and Dice	Choose the die face corresponding to the number of fingers. Teaches visual representations of numbers up to 5.
Subitizing with Dice	Choose the die face corresponding to the number of birds. Teaches visual representations of numbers up to 6.
Double Sided Subitizing	Choose the two die faces that represent the number of birds that appeared on each side of the screen. Teaches visual representations of numbers up to 6.

Numbers and Objects to 10

Standards Coverage:

Related: K.2.A, K.2.B, K.2.C, K.2.E

Game Name	Game Description
Dot Count	Count the number of objects that appear in a set by clicking on each object once. Students learn to count to ten.
Alien Capture	Count up to 10 spaceships.
Match Count	Match a given set of shaded circles with a set of empty circles. This game teaches counting and one-to-one correspondence.
How Many Legs	Provide the correct number of shoes for each set of creatures.
Counting On to 10 Dots	Use visual models to learn the meaning of the numbers 1-10 and to put them in order. Count to 10 using numerals and visual representations.
Number Sticks	Learn the number symbols (1-9) and the quantities they represent.
Number Objects	Represent a numerical symbol (1-9) as a set of objects and provide the number that describes the cardinality of a given set of objects. This game helps students remember the meaning of the numerals.
Dot Count Symbolic	Count the number of objects that appear in a set by clicking on each object once and provide the number that matches the cardinality of the given sets. Students learn to count to ten.

Exploring Shapes

Standards Coverage:

Recommended: K.6.C, K.6.D

Related: K.6.E

Game Name	Game Description
Roll Off	Identify the shapes that will roll away. Shapes that are not round get stuck and block JiJi's path.
Block Stack	Identify which objects can be stacked. Shapes that are not rectangular will roll away or cause the stack to topple.
Wedge	Identify the objects that can be used to move the barrier. Shapes that are not triangles will block JiJi's path since they cannot wedge themselves under the barrier.
Match Shape	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Prisms and Cylinders	Identify the shape of the base or side of a prism or cylinder.

Greater Than, Less Than, Equal To

Standards Coverage:

Related: K.2.E, K.2.F, K.2.G

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Order Sort	Order and compare two quantities between 0 and 10.
Parachute	Put JiJi in the correct starting place to parachute down to the ground using inclines and ladders.
More Less Parachute	Select a set of stacked objects that will be greater than, less than, or equal to a given set of stacked objects.
More Less Parachute Unstacked	Select a set of stacked objects that will be greater than, less than, or equal to a given set of unstacked objects.

Understanding Addition and Subtraction within 5

Standards Coverage:

Recommended: K.3.A

Related: K.2.I, K.3.B, K.3.C

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Bird Expressions Addition	Add the number of new birds that arrive to find the total number of birds.
Select Box Addition Symbolic	Add using visual models and numerals.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Bird Expressions Subtraction	Identify how many birds are left on the wire after some of them fly away. This game relates numbers to quantities and teaches subtraction.
Select Box Subtraction Symbolic	Subtract using visual models and numerals.

Analyzing Shapes

Standards Coverage:

Recommended: K.6.D

Related: K.6.E

Game Name	Game Description
How Many Corners	Identify the number of vertices on two-dimensional shapes.
Find the Pair	Given a set of two-dimensional shapes, identify the two that have the same number of vertices.
How Many Sides or Corners	Identify the number of sides or vertices on two-dimensional shapes.
Single Slide Transform	See how various attributes of shapes are changed when different transformations are applied.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.

Understanding Addition and Subtraction within 10

Standards Coverage:

Recommended: K.3.A

Related: K.2.I, K.3.B, K.3.C

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Bird Expressions Addition	Add the number of new birds that arrive to find the total number of birds.
Select Box Addition Symbolic	Add using visual models and numerals.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Bird Expressions Subtraction	Identify how many birds are left on the wire after some of them fly away. This game relates numbers to quantities and teaches subtraction.
Select Box Subtraction Symbolic	Subtract using visual models and numerals.

Making 10 and Number Pairs

Standards Coverage:

Recommended: K.2.I, K.3.A

Related: K.3.B, K.3.C

Game Name	Game Description
Bouncing Shoes	Use the model to explore the concept of additively constructing a given number within 10.
Bouncing Shoes to 10	Use the model to make several additive pairs for a given number within 10.
Ten Frame	Make ten using ten frames.
Bouncing Shoes with Numbers	Using the symbols, additively decompose numbers within 10.
Partners	Decompose 10 as sums.

Numbers and Objects to 20

Standards Coverage:

Recommended: K.2.A, K.2.B, K.2.C, K.2.E

Game Name	Game Description
How Many Legs	Provide the correct number of shoes for each set of creatures.
Ten Frame to 20	Relate numerical symbols (up to 20) to their representations with ten frames. This game teaches correspondence between numbers and sets of objects and also provides an introduction to ones and tens place value concepts.
Dot Count Symbolic	Identify the numeral that represents the set of dots.
Alien Capture Symbolic	Count up to 20 spaceships.
Ten Frame to 20 Symbolic	Relate numerical symbols (up to 20) to their representations with ten frames. This game teaches correspondence between numbers and sets of objects and also provides an introduction to ones and tens place value concepts.
Alien Capture Counting On Symbolic	Count up to 20 spaceships.

Comparing Numbers

Standards Coverage:

Related: K.2.E, K.2.F, K.2.G, K.2.H

Game Name	Game Description
More Less Parachute Symbolic	Select a set of stacked objects that will be greater than, less than, or equal to a given number that is then represented as a set of stacked objects. This game displays the meaning of ordering numbers and provides a visual understanding of the greater than, less than, and equal to symbols.
More Less Parachute Multiple Choice	Select a number that will be greater than, less than, or equal to a given number. This game displays the meaning of ordering numbers by representing the numbers as sets of objects and provides a visual understanding of the greater than, less than, and equal to symbols.
Least Most with Number Line	Identify the smallest or largest number in a set using number line concepts.
Order Sort Symbolic	Compare and order two whole numbers written symbolically between 1 and 10.
Least Most	Identify the smallest or largest number in a set using number line concepts.

Counting to 100

Standards Coverage:

Recommended: K.2.A, K.2.B

Game Name	Game Description
Number Line Journey	Move left and right on the number line to locate the given number.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Counting On and Back	Count forward to one hundred and backward from one hundred.

Measurable Attributes

Standards Coverage:

Recommended: K.7.B

Related: K.7.A

Game Name	Game Description
Swap Sort	Order a set of rectangles from smallest to largest or largest to smallest by swapping their positions.
Two Item Slinky	Order pairs of objects by their weights. Students can use a balance to compare pairs they are unsure of.
Three Item Slinky	Compare and order three objects by their weights using a balance.
Indirect Measurement	Compare the lengths of two objects by placing them vertically in ascending or descending order.

Composing Shapes

Standards Coverage:

Recommended: K.6.C, K.6.F

Related: K.6.A, K.6.B, K.6.D

Game Name	Game Description
Bricks	Arrange the shapes to create the composite shape shown.
Composite Shapes	Create a composite shape by arranging the shape parts.
Composite Shapes 3D	Create a composite 3-dimensional shape by arranging the shape parts.

Addition and Subtraction Facts within 5

Standards Coverage:

Recommended: K.3.A

Game Name	Game Description
Select Box Symbolic	Add using visual models and numerals.
Basic Facts	Practice addition and subtraction facts using visual models.
Ten Frame Symbolic	Learn numerals and addition facts using ten frames.

Sorting and Classifying

Standards Coverage:

Recommended: K.8.A, K.8.B, K.8.C, K.6.A, K.6.E

Game Name	Game Description
Paper JiJi	To put JiJi together, locate the square on the grid determined by the given horizontal and vertical positions.
Shapes and Patterns Paper JiJi	To put JiJi together, locate the square on the grid determined corresponding to the given shape and pattern.
Attribute Grid Two Attributes	Identify two attributes (size, shape, or color) of the given shape by placing the shape in the appropriate box in the grid.

Counting with Pennies

Standards Coverage:

Related: K.4

Game Name	Game Description
Toll Bridge Single Coin	Learn the value of each coin.
Toll Bridge Multiple Coin	Choose or count out the coin or combination of coins whose value is equal to the given amount.
Money Notation	Practice reading and writing money amounts using the cent symbol.

Math Challenge K

Game Name	Game Description
Number Line Trap	Estimate the location of a whole number within 20 on the number line with various hash marks and labelled numbers.
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Tug Boat with Pictures	Rearrange the numbers so that the sums on each side are the same. This game teaches addition, subtraction, and the concept of equal amounts.
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster Addition	Use the model to solve addition problems. Includes missing addend.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
Treasure Hunt with Boxes	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Attribute Grid	Identify attributes of an object including size, color, and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Estimate Length	Estimate length of an object given the distance of platform from end of pathway. Iterate a unit ruler to help estimation accuracy.
Addition with Unknowns	Solve addition problems with unknowns in varying positions and on either side of the equal sign.

Challenge K

Game Name	Game Description
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Pattern Monkey	Identify and extend patterns of different geometric shapes.
Pattern Monkey 2	Create repeating patterns of varying length with different geometric shapes. Identify repeating patterns of varying length in a sequence of geometric shapes.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Exploring Patterns

Game Name	Game Description
Pattern Monkey Intro	Create repeating patterns of two-dimensional shapes.
Pattern Monkey	Identify repeating patterns of a sequence of two, three or four geometric shapes.
Pattern Walkway with Shapes	Fit the shapes together to identify and extend a pattern. This will build a bridge for JiJi to walk across.

Advanced Patterns

Game Name	Game Description
Pattern Monkey Intro	Create repeating patterns of two-dimensional shapes.
Pattern Monkey	Identify repeating patterns of a sequence of two, three or four geometric shapes.
Pattern Walkway with Shapes	Fit the shapes together to identify and extend a pattern. This will build a bridge for JiJi to walk across.
Pattern Directions	Extend repeating patterns in various directions. Here the objects all have the same shape; the patterns are based on color, orientation, and rotation.
Pattern Directions Comparing and Filling	Extend the patterns in various directions by filling in the boxes. The patterns are based on the color and orientation of the objects.
Pattern Walkway with Letters	Build a bridge for JiJi by fitting the shapes together to make a pattern. Now the shapes are labeled with letters.

Position

Game Name	Game Description
Match Position	Remove the ball that is blocking JiJi's path. This game teaches orientation and relative position in two dimensions.
Match Shape	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Match Direction Top View	Identify which way JiJi needs to turn to remove the ball. This game teaches orientation and relative position in two dimensions.
Upright JiJi	Create a series of rotations needed to change JiJi's current orientation to a new orientation. This game strengthens the ability to visually manipulate objects.

Position Symbolic

Game Name	Game Description
Match Position Side View Symbolic Intro	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "behind", "in front", "above" and "below".
Match Direction Top View Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "forward", "backward", "to the right", and "to the left".
Upright JiJi	Create a series of rotations needed to change JiJi's current orientation to a new orientation. This game strengthens the ability to visually manipulate objects.
Treasure Hunt with Squares	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Match Position Side View Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "behind", "in front", "above" and "below".
Match Direction Top View with Turns Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "forward", "backward", "to the right", and "to the left". JiJi's path to the door is not necessarily direct.

OPTIONAL OBJECTIVES

Technology Interaction

Game Name	Game Description
Defog JiJi	This game teaches students how to use a mouse, while clearing the fog away from JiJi.

Counting on the Number Line

Game Name	Game Description
Bird Expressions	Provide the instance of a whole number within 20 on the number line using the model.
Number Line Journey	Move left and right on the number line to locate the given number.
Number Line Zoom	Plot a whole number within 20 on the number line by first indicating if the number is less than or greater than 10.
Number Line Trap	Estimate the location of a whole number within 20 on the number line with various hash marks and labeled numbers.
What's the Number	Write numerals within 20 on the number line.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
K.2.A	Count forward and backward to at least 20 with and without objects. **Recommended: Numbers and Objects to 20; Counting to 100** *Related: Numbers and Objects to 5; Numbers and Objects to 10*
K.2.B	Read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures. **Recommended: Numbers and Objects to 20; Counting to 100** *Related: Numbers and Objects to 5; Numbers and Objects to 10*
K.2.C	Count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order. **Recommended: Numbers and Objects to 20** *Related: Numbers and Objects to 5; Numbers and Objects to 10*
K.2.D	Recognize instantly the quantity of a small group of objects in organized and random arrangements. **Recommended: Numbers and Objects to 5; Subitizing**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
K.2.E	Generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20. **Recommended: Numbers and Objects to 20** *Related: Numbers and Objects to 5; Numbers and Objects to 10; Greater Than, Less Than, Equal To; Comparing Numbers*
K.2.F	Generate a number that is one more than or one less than another number up to at least 20. *Related: Greater Than, Less Than, Equal To; Comparing Numbers*
K.2.G	Compare sets of objects up to at least 20 in each set using comparative language. *Related: Greater Than, Less Than, Equal To; Comparing Numbers*
K.2.H	Use comparative language to describe two numbers up to 20 presented as written numerals. *Related: Comparing Numbers*
K.2.I	Compose and decompose numbers up to 10 with objects and pictures. **Recommended: Making 10 and Number Pairs** *Related: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
K.3.A	Model the action of joining to represent addition and the action of separating to represent subtraction. **Recommended: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10; Making 10 and Number Pairs; Addition and Subtraction Facts within 5**
K.3.B	Solve word problems using objects and drawings to find sums up to 10 and differences within 10 *Related: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10; Making 10 and Number Pairs*
K.3.C	Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences. *Related: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10; Making 10 and Number Pairs*
K.4	The student will a) recognize and describe with fluency part-whole relationships for numbers up to 5; and b) investigate and describe part-whole relationships for numbers up to 10. . *Related: Counting with Pennies*

GM - Geometry and Measurement

Standard	Objective(s)
K.6.A	Identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles. **Recommended: Sorting and Classifying** *Related: Composing Shapes*
K.6.B	Identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world. *Related: Composing Shapes*
K.6.C	Identify two-dimensional components of three-dimensional objects. **Recommended: Exploring Shapes; Composing Shapes**
K.6.D	Identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably. **Recommended: Exploring Shapes; Analyzing Shapes** *Related: Composing Shapes*
K.6.E	Classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size. **Recommended: Sorting and Classifying** *Related: Exploring Shapes; Analyzing Shapes*

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
K.6.F	Create two-dimensional shapes using a variety of materials and drawings. **Recommended: Composing Shapes**
K.7.A	Give an example of a measurable attribute of a given object, including length, capacity, and weight. *Related: Measurable Attributes*
K.7.B	Compare two objects with a common measurable attribute to see which object has more or less of the attribute and describe the difference. **Recommended: Measurable Attributes**

DA - Data Analysis

Standard	Objective(s)
K.8.A	Collect, sort, and organize data into two or three categories. **Recommended: Sorting and Classifying**
K.8.B	Use data to create real-object and picture graphs. **Recommended: Sorting and Classifying**
K.8.C	Draw conclusions from real-object and picture graphs. **Recommended: Sorting and Classifying**

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Addition and Subtraction Within 10

Standards Coverage:

Recommended: 1.3.D

Related: 1.5.D, 1.5.F, 1.3.B, 1.3.E, 1.3.F

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Select Box Addition Symbolic	Add using visual models and numerals.
Ten Frame Addition	Practice addition facts using ten frames.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Pie Monster	Use the model to solve subtraction problems.
Push Box Estimation	Estimate the height of blocks being added or subtracted.
Basic Facts Subtraction Symbolic	Practice addition and subtraction facts using visual models.
Pie Monster Symbolic	Use the model to solve subtraction problems.

Measurement Concepts

Standards Coverage:

Recommended: 1.7.A, 1.7.B

Related: 1.7.C, 1.7.D

Game Name	Game Description
Order Sort	Order a set of rectangles from smallest to largest or largest to smallest by clicking on each rectangle in order from smallest to largest or largest to smallest.
Indirect Measurement	Compare the lengths of two or three objects by placing them vertically in ascending or descending order.
Estimate Length	Estimate length of an object given the distance of platform from end of pathway. Iterate a unit ruler to help estimation accuracy.
Measure Length	Measure length of one or two objects by iterating a unit ruler and select length of gap on number line.

Addition, Subtraction and Equations

Standards Coverage:

Recommended: 1.5.E, 1.5.F, 1.2.C, 1.3.D

Related: 1.5.D, 1.3.B, 1.3.E, 1.3.F

Game Name	Game Description
Bird Expressions	Model two-step addition and subtraction of single digit numbers.
Build Expression	Model addition or subtraction of whole numbers within 20 and find the sum or difference.
Meaning of Equal Sign	Determine if equations are true or false and represent symbolically by choosing the "equal" or "does not equal" sign.

Number Pairs and Making 10

Standards Coverage:

Recommended: 1.3.C, 1.3.D

Related: 1.3.B, 1.3.E, 1.3.F

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Bouncing Shoes	Use the model to make several additive pairs for a given number within 10.
Bouncing Shoes with Numbers	Using symbols, additively decompose numbers within 10.
Building Blocks	Fill in the missing addend to make a sum of 10.
Partners	Decompose 10 as sums.

Counting by Tens

Standards Coverage:

Recommended: 1.5.B, 1.5.C, 1.2.B, 1.2.C

Related: 1.2.D, 1.2.F

Game Name	Game Description
Hundreds Pit	Skip count from a given number less than 90 by various amounts.
Counting by Ones on the Hundreds Chart	Use a hundreds chart to count on by ones.
Counting by Tens on the Hundreds Chart	Use a hundreds chart to count on by tens.
Counting by Tens on the Number Line	Add multiple tens to a given number where the sum is less than 100.
Ten Frame Counting	Decompose a number less than 20 into two parts. Record the decomposition using a visual equation.
Ten Frame Counting Symbolic	Decompose a number less than 20 into two parts. Record the decomposition using a numeric equation.

Counting with Groups

Standards Coverage:

Recommended: 1.5.B, 1.2.B, 1.2.C

Related: 1.3.A

Game Name	Game Description
Alien Capture	Separately, count up to 20 alien ships or 10 motherships.
Motherships and Aliens	Count up to 10 motherships and then alien ships together in an organized arrangement.
Motherships Groups	Determine the number of motherships needed and how many alien ships are still left when counting a group of alien ships and record the result on ten frames.
Motherships and Aliens Bubble Select	Count up to 10 motherships and then alien ships together in an organized arrangement. Record the answer numerically.
Motherships Groups Bubble Select	Determine the number of motherships needed and how many alien ships are still left when counting a group of alien ships and record the result numerically.

Counting to 120

Standards Coverage:

Recommended: 1.5.A, 1.2.C

Related: 1.2.F

Game Name	Game Description
Number Line Journey	Locate a given number within 120 on a number line.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Number Line Trap	Estimate the location of whole numbers (1-120) on the number line. The student is also introduced to place value concepts with ones and tens.
Counting On and Back	Count on or back from a given sequence of numbers up to 120.

Addition and Subtraction Situations with Unknowns

Standards Coverage:

Recommended: 1.5.E, 1.5.F, 1.5.G, 1.3.D

Related: 1.5.D, 1.3.B, 1.3.E, 1.3.F

Game Name	Game Description
Pie Monster Addition	Use the model to solve addition problems. Includes missing addend.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Addition with Unknowns	Solve addition problems with unknowns in varying positions and on either side of the equal sign.
Subtraction with Unknowns	Solve subtraction problems with unknowns in varying positions and on either side of the equal sign.
Equations with Unknowns	Model and solve mixed operation problems with unknowns in varying positions and on either side of the equal sign.
Push Box Symbolic	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Missing Addend	Select the other addend to make a given sum.

Place Value Concepts

Standards Coverage:

Recommended: 1.2.B, 1.2.C

Related: 1.2.A

Game Name	Game Description
Multiple Choice Petals	Represent ones, tens and hundreds using words, numerals and visual models.
Pulling Petals	Gain an understanding of place value by transforming the pile of petals into tens (flowers with 10 petals each) ones (single petals).
Bee Petals	Represent numbers using a place value based flower petal model. In some levels, students determine the order of magnitude, given a number and a pile of petals (e.g. given the number 7, identify the size of the pile as 7 ones, 7 tens, or 7 hundreds).
Petals Place Value	Given a one- or two-digit whole number, identify the number of tens and the number of ones.
Petals Bubble Select	Find the total number of petals by counting the flowers (tens) and single petals (ones) and then filling in the tens and ones places with the correct numerals.
How Many Petals	Write the numeral for how many petals are in a given pile.

Adding and Subtracting by Tens

Standards Coverage:

Recommended: 1.5.C, 1.5.E, 1.5.F, 1.3.A, 1.3.D

Related: 1.3.B, 1.3.E

Game Name	Game Description
Petals Place Value	Given a one- or two-digit whole number, identify the number of tens and the number of ones.
Add or Subtract by 1 or 10	Add and subtract 1 and 10 from two-digit whole numbers using mental arithmetic.
Add or Subtract Single Place Numbers	Add and subtract 1 and 10 from two-digit whole numbers using mental arithmetic.
Table Directions	Add and subtract one-digit and two-digit whole numbers using a number table.
Addition and Subtraction on the Number Line	Add two-digit whole numbers and mark the sum on a number line. Most of the sums and differences involve numbers that are multiples of 5 or 10.

Composite Shapes

Standards Coverage:

Recommended: 1.6.C, 1.6.F

Related: 1.6.G, 1.6.H

Game Name	Game Description
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Bricks	Arrange the shapes to create the composite shape shown.
Composite Shapes 2D	Create a composite shape by arranging the shape parts.
Composite Shapes 3D	Create a composite 3D shape by arranging the given 3D shapes.

Using Place Value to Add

Standards Coverage:

Recommended: 1.3.A, 1.3.C, 1.3.D

Game Name	Game Description
Petals Addition	This game introduces the standard algorithm for addition using a visual model, with ones represented as single petals and tens represented as flowers.
Petals Addition Method	Use the standard algorithm to add two-digit whole numbers without regrouping. Verify with the model.

Comparing and Ordering Two-Digit Numbers

Standards Coverage:

Recommended: 1.2.E, 1.2.F, 1.2.G

Game Name	Game Description
Order Sort	Order sets of stacked objects from smallest to largest or largest to smallest.
Order Sort Same Digits	From smallest to largest, order two-digit numbers that share the same digit in either place value.
Order Sort Two Digit Numbers	From smallest to largest, order two-digit numbers.
Numberline Trap	Use estimation and an understanding of place value to plot whole numbers (up to two digits) on a number line.
Least or Most	Identify the smallest or largest number in a set using number line concepts.
Comparison Signs	Order sets of objects and whole numbers using the symbols for less than, greater than, and equal to.
Number Comparison	Order whole numbers using both methods based on place value and the symbols for less than, greater than, and equal to.

Addition and Subtraction Within 20

Standards Coverage:

Recommended: 1.3.D

Related: 1.5.D

Game Name	Game Description
Ten Frame Addition	Practice addition facts using ten frames.
Ten Frame Addition 2	Practice addition facts using ten frames.
Basic Facts	Practice addition and subtraction facts using visual models.
Ten Frame Subtraction	Practice addition facts using ten frames.

Equal Shares and Partitioning

Standards Coverage:

Recommended: 1.6.G, 1.6.H

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Equal Division	Divide blocks into equal parts.
Match Partitions	Match the partitioning of two rectangular blocks.
Fraction Bricks	Represent the same length using different partitionings.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Balance Pies	Match the area of one side of a balance using parts of a whole.
Pie Monster	Implicitly add two shaded regions together.

Shape Differences

Standards Coverage:

Recommended: 1.6.A, 1.6.D

Game Name	Game Description
Pick Geometric Shapes 2D	Identify the number of edges and vertices on two-dimensional shapes.
Shape Names	Identify the given polygon.
Pick Geometric Shapes 2D Symbolic	Learn the names and number of edges of different polygons.
Prisms and Cylinders	Pick the shape that is the base of a given prism.
Pick Geometric Shapes 3D2D with Vertices	Identify the number of edges and vertices on two-dimensional shapes.

Organizing Data

Standards Coverage:

Recommended: 1.8.B

Related: 1.8.A, 1.8.C

Game Name	Game Description
Paper JiJi	To put JiJi together, locate the square on the grid determined by the given horizontal and vertical positions.
Attribute Grid	Identify attributes of an object including size, color, and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Shapes and Attributes Paper JiJi	Graph the given data by locating the type of shape on the vertical axis and the number of shapes on the horizontal axis.
Tally Marks	Use tally marks to record and represent the numbers and objects from one to ten.
Bar Graph Bridge	Construct bar graphs for a data set given as single observations or in a table.

Telling Time

Standards Coverage:

Recommended: 1.7.E

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and record time on an analog clock.
Telling Time	Students place the hands on a clock in the correct position to represent time to the hour and half-hour on an analog clock.
Time on a Line	Read an analog clock to the hour and half-hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes, Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time, Digital	Students read an analog clock to the hour and half-hour and record the time on a digital clock.

Money

Standards Coverage:

Recommended: 1.4.A, 1.4.C

Related: 1.4.B

Game Name	Game Description
Identify Coin	Learn the value of each coin.
Money Place Value	Express a whole number using currency and place value concepts.
Money Swapper	Order coins and combinations of coins by their values.
Toll Bridge	Choose or count out the coin or combination of coins whose value is equal to the given amount.

Math Challenge 1

Game Name	Game Description
Pie Monster	Use the model to solve two-step addition problems. Includes missing addend.
Push Box Missing Quantity	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Tug Boat with Pictures	Rearrange the numbers so that the sums on each side are the same. This game teaches addition, subtraction, and the concept of equal amounts.
Mice Island	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Balance Pies	Match the area of one side of a balance using parts of a whole.
Venn Space	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Bricks	Arrange the shapes to create the composite shape shown.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Bouncing Shoes	Determine how many instances of a given animal are needed to fill the boots.

Challenge 1

Game Name	Game Description
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Bird Brain	Find birds in a grid after a sequence of transformations.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.

Equal Shares and Partitioning Symbolic

Game Name	Game Description
Fraction of Shape Symbolic	Both symbolically and linguistically state what portion of the shape is shaded.
Crank Pies	Match the shaded region to the terms 'ones', 'halves', and 'fourths'. Determine how many of these are given.
Match Fraction Symbolic	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.

Two-Digit Number Words

Game Name	Game Description
Place Value Builder	Identify the digit values of given whole numbers using models based on place value. This game covers expanded notation and place value concepts up to the tens place while enforcing the skills of reading and writing whole numbers.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the tens place while enforcing the skills of reading and writing whole numbers.
Numbers to Words	Convert two-digit whole numbers from symbols to words.
Words to Numbers	Convert two-digit whole numbers from words to symbols.

OPTIONAL OBJECTIVES

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
1.2.A	Recognize instantly the quantity of structured arrangements. *Related: Place Value Concepts*
1.2.B	Use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones. **Recommended: Counting by Tens; Counting with Groups; Place Value Concepts**
1.2.C	Use objects, pictures, and expanded and standard forms to represent numbers up to 120. **Recommended: Addition, Subtraction and Equations; Counting by Tens; Counting with Groups; Counting to 120; Place Value Concepts**
1.2.D	Generate a number that is greater than or less than a given whole number up to 120. *Related: Counting by Tens*
1.2.E	Use place value to compare whole numbers up to 120 using comparative language. **Recommended: Comparing and Ordering Two-Digit Numbers**
1.2.F	Order whole numbers up to 120 using place value and open number lines. **Recommended: Comparing and Ordering Two-Digit Numbers** *Related: Counting by Tens; Counting to 120*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
1.2.G	Represent the comparison of two numbers to 100 using the symbols for greater than, less than, and equal. **Recommended: Comparing and Ordering Two-Digit Numbers**
1.3.A	Use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99. **Recommended: Adding and Subtracting by Tens; Using Place Value to Add** *Related: Counting with Groups*
1.3.B	Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3. *Related: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Number Pairs and Making 10; Addition and Subtraction Situations with Unknowns; Adding and Subtracting by Tens*
1.3.C	Compose 10 with two or more addends with and without concrete objects. **Recommended: Number Pairs and Making 10; Using Place Value to Add**
1.3.D	Apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10. **Recommended: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Number Pairs and Making 10; Addition and Subtraction Situations with Unknowns; Adding and Subtracting by Tens; Using Place Value to Add; Addition and Subtraction Within 20**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
1.3.E	Explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences. *Related: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Number Pairs and Making 10; Addition and Subtraction Situations with Unknowns; Adding and Subtracting by Tens*
1.3.F	Generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20. *Related: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Number Pairs and Making 10; Addition and Subtraction Situations with Unknowns*
1.4.A	Identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them. **Recommended: Money**
1.4.B	Write a number with the cent symbol to describe the value of a coin. *Related: Money*
1.4.C	Use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes. **Recommended: Money**

AR - Algebraic Reasoning

Standard	Objective(s)
1.5.A	Recite numbers forward and backward from any given number between 1 and 120. **Recommended: Counting to 120**
1.5.B	Skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set. **Recommended: Counting by Tens; Counting with Groups**
1.5.C	Use relationships to determine the number that is 10 more and 10 less than a given number up to 120. **Recommended: Counting by Tens; Adding and Subtracting by Tens**
1.5.D	Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences. *Related: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Addition and Subtraction Situations with Unknowns; Addition and Subtraction Within 20*
1.5.E	Understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s). **Recommended: Addition, Subtraction and Equations; Addition and Subtraction Situations with Unknowns; Adding and Subtracting by Tens**

continued on next page

AR - Algebraic Reasoning (continued)

Standard	Objective(s)
1.5.F	Determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation. **Recommended: Addition, Subtraction and Equations; Addition and Subtraction Situations with Unknowns; Adding and Subtracting by Tens** *Related: Addition and Subtraction Within 10*
1.5.G	Apply properties of operations to add and subtract two or three numbers. **Recommended: Addition and Subtraction Situations with Unknowns**

GM - Geometry and Measurement

Standard	Objective(s)
1.6.A	Classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language. **Recommended: Shape Differences**
1.6.C	Create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons. **Recommended: Composite Shapes**
1.6.D	Identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language. **Recommended: Shape Differences**
1.6.F	Compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible. **Recommended: Composite Shapes**
1.6.G	Partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words. **Recommended: Equal Shares and Partitioning** *Related: Composite Shapes*

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
1.6.H	Identify examples and non-examples of halves and fourths. **Recommended: Equal Shares and Partitioning** *Related: Composite Shapes*
1.7.A	Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement. **Recommended: Measurement Concepts**
1.7.B	Illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other. **Recommended: Measurement Concepts**
1.7.C	Measure the same object/distance with units of two different lengths and describe how and why the measurements differ. *Related: Measurement Concepts*
1.7.D	Describe a length to the nearest whole unit using a number and a unit. *Related: Measurement Concepts*
1.7.E	Tell time to the hour and half hour using analog and digital clocks. **Recommended: Telling Time**

DA - Data Analysis

Standard	Objective(s)
1.8.A	Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts. *Related: Organizing Data*
1.8.B	Use data to create picture and bar-type graphs. **Recommended: Organizing Data**
1.8.C	Draw conclusions and generate and answer questions using information from picture and bar-type graphs. *Related: Organizing Data*

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Skip Counting

Standards Coverage:

Related: 2.2.C

Game Name	Game Description
Staircase	Skip count to move JiJi up the stairs. This game builds a foundation for understanding multiplication as repeated addition.
Counting by Ones on the Hundreds Chart	Use a hundreds chart to count on by 1s, 2s, 3s, 4s or 5s.
Counting by Tens on the Hundreds Chart	Use a hundreds chart to count by tens.
Counting by Tens on the Number Line	Add multiple tens to a given number where the sum is less than 100.

The Number Line

Standards Coverage:

Recommended: 2.2.E, 2.2.F

Related: 2.9.C

Game Name	Game Description
Number Line Trap	Select locations of numbers within 20 on a number line and estimate the location of numbers up to 100 on a number line.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Number Line to 100	Estimate the location of a two-digit whole number on the number line.
Number Line to 100 Bubble Select	Write numerals within 100 on the number line.

Addition and Subtraction Situations

Standards Coverage:

Recommended: 2.4.A

Related: 2.4.C, 2.4.D

Game Name	Game Description
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster	Use the model to solve addition problems. Includes missing addend.
Ten Frame Addition	Learn numerals and addition facts using ten frames.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
How Many More	Describe the difference between two whole numbers using the words less, greater, and equal.

Addition and Subtraction Situations within 100

Standards Coverage:

Recommended: 2.4.B

Related: 2.7.C, 2.4.C, 2.4.D

Game Name	Game Description
Mice Island Two-Digit Addition	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Critter Two-Digit Addition	Add one-digit and two-digit whole numbers using visual models.
Mice Island Two-Digit Subtraction	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Missing Addend	Select the other addend to make a given sum.

Place Value to 1,000

Standards Coverage:

Recommended: 2.2.A, 2.2.B, 2.2.C

Related: 2.2.D

Game Name	Game Description
Petals Multiple Choice	Represent ones, tens, hundreds and thousands using words, numerals and visual models.
Pulling Petals	Gain an understanding of place value by transforming the pile of petals into hundreds (bouquets with 100 petals each), tens (flowers with 10 petals each), and ones (single petals).
Bee Petals	Represent numbers using the visual model. In some levels, students determine the order of magnitude, given a number and a pile of petals (e.g. given the number 4, identify the size of the pile as 4 ones, 4 tens, or 4 hundreds).
Petals Bubble Select	Given a three-digit whole number, identify the number of hundreds, tens, and ones.
How Many Petals	Write a numeral to represent the pile of petals.
Petals Place Value	Find the total number of petals by counting the bouquets (hundreds), flowers (tens) and single petals (ones) and then filling in the hundreds, tens and ones places with the correct numerals.

Comparing Three-Digit Numbers

Standards Coverage:

Recommended: 2.2.D, 2.2.E, 2.2.F

Related: 2.2.C

Game Name	Game Description
Number Line Trap	Use estimation and an understanding of place value to plot whole numbers (up to three digits) on a number line.
Least Most	Identify the least or greatest element in a set of whole numbers (up to three digits).
Comparison Signs	Order sets of objects and whole numbers using the symbols for less than, greater than, and equal to.
Number Comparison	Order whole numbers (up to three digits) using the symbols for less than, greater than, and equal to.

Measurement

Standards Coverage:

Recommended: 2.9.A, 2.9.D, 2.9.E

Related: 2.9.B, 2.9.C

Game Name	Game Description
Measure It with Objects	Measure the length of a gap using various nonstandard units. This game also introduces the concept of relative sizes of units.
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Measurement Concepts	Use rulers and measuring tapes to measure objects and create corresponding lengths on a number line.

Addition and Subtraction with Measurement

Standards Coverage:

Recommended: 2.9.A, 2.9.E

Related: 2.9.D

Game Name	Game Description
Measurement Addition	Measure and add the lengths of two objects to create an equal distance on a number line.
Measurement Addition With Comparisons	Add lengths of objects to create an equal distance between platforms or to close a gap between platforms.

Operations on the Number Line

Standards Coverage:

Recommended: 2.9.C, 2.2.E, 2.4.A

Related: 2.7.C

Game Name	Game Description
Adding with Jumps	On the number line, add multiple ones to a given whole number within 20.
Creating Jumps	On the number line, add multiple ones to a given whole number within 20.
Adding on the Number Line	Add two whole numbers on the number line where the sum is within 20.

Counting to 1,000

Standards Coverage:

Recommended: 2.2.E

Related: 2.2.F

Game Name	Game Description
Number Line Journey	Move left and right and zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Number Line Trap	Estimate the location of whole numbers (1-100) on the number line. The student is also introduced to place value concepts with ones and tens.

Two Step Situations

Standards Coverage:

Recommended: 2.4.A

Related: 2.7.C, 2.4.C, 2.4.D

Game Name	Game Description
Pie Monster	Use the model to solve two-step addition problems. Includes missing addend.
Push Box Missing Quantity	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster Symbolic	Solve two-step addition problems symbolically, but with support from the arena. Includes missing addend.
Push Box Missing Quantity Symbolic	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Two Step Length Problems	Find missing lengths of objects or of parts of objects. Create and add lengths that equal the distance between platforms.

Adding and Subtracting Tens and Hundreds

Standards Coverage:

Recommended: 2.7.B, 2.2.A, 2.2.B, 2.2.E, 2.4.B

Related: 2.2.C, 2.2.F, 2.4.C, 2.4.D

Game Name	Game Description
Add or Subtract by 1, 10 or 100	To a three-digit whole number, add or subtract 1, 10, or 100 using the model.
Add or Subtract Single Place Numbers	Add or subtract a multiple of 1, 10, or 100 to a given number without regrouping.
Table Directions	Add and subtract one-digit and two-digit whole numbers using a number table.
Addition and Subtraction on the Number Line	Estimate differences of whole numbers (up to four digits) on a number line.

Using Place Value to Add and Subtract

Standards Coverage:

Recommended: 2.4.B

Related: 2.4.C

Game Name	Game Description
Petals Addition and Subtraction	Add or subtract 2- and 3- digit numbers using a quantity model of the standard algorithm. Numbers are presented as quantities of petals.
Petals Addition and Subtraction Method	Add or subtract 2- and 3- digit numbers using the quantity model alongside the usual numerical representation of the standard algorithm.

Place Value Bundles - Ten and Hundred

Standards Coverage:

Recommended: 2.2.A, 2.2.B

Game Name	Game Description
Greenies Bubble Select	Produce the number that is represented by a given place value based representation. This game covers expanded notation and place value concepts up to the thousands place while enforcing the skills of reading and writing whole numbers.
Greenies Regrouping	Regroup the ones or tens or both in order to represent the total number in standard expanded form.
Intro to Building	Fill in the missing addend to make a sum of 10, or to make a sum of 100 using addends that are multiples of 10 (e.g. 30 + 70).
Petals Regrouping	Given a model of bouquets (hundreds), flowers (tens), and ones (individual petals), regroup in order to represent the total number of petals as a numeral in standard place value notation.
Petals Random Regrouping Ones	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Petals Random Regrouping Tens	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks	Fill in the missing addend to make a sum of 10 or 100.

Time

Standards Coverage:

Recommended: 2.9.G

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and write time on an analog clock.
Telling Time	Students place the hands on a clock in the correct position to represent time to the quarter-hour on an analog clock.
Time on a Line	Read an analog clock to the quarter hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time Digital	Students read an analog clock to the quarter hour and record the time on a digital clock.

Model Addition and Subtraction within 1000

Standards Coverage:

Related: 2.4.C, 2.4.D

Game Name	Game Description
Intro to Regrouping with Addition	Using the petals model, add two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Addition	Symbolically add two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.
Intro to Regrouping with Subtraction	Using the petals model, subtract two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Subtraction	Symbolically subtract two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.

Addition and Subtraction within 100

Standards Coverage:

Recommended: 2.2.A, 2.2.B, 2.4.B

Related: 2.4.C

Game Name	Game Description
Candy Factory	Identify the number of tens and ones for a given two-digit whole number.
Candy Factory Addition	Add one-digit and two-digit whole numbers using place value concepts.
Petals Addition and Subtraction	Use the standard algorithm to add and subtract whole numbers, with and without regrouping required.
Addition and Subtraction on the Number Line	Add two-digit whole numbers and mark the sum on a number line. Most of the sums and differences involve numbers that are multiples of 5 or 10.
Addition Algorithm	Add four-digit whole numbers using the standard algorithm.
Candy Factory Subtraction	Subtract one-digit and two-digit whole numbers using place value concepts.

Even and Odd Numbers

Standards Coverage:

Recommended: 2.7.A, 2.7.B, 2.9.F, 2.6.A, 2.6.B

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Complete Box	Represent numerical expressions using an area model.
Even or Odd	Learn the concept of even and odd numbers using a visual model.
Even or Odd Symbolic	Using the terms “even” and “odd”, state the parity of the various numbers.

Intro to Arrays

Standards Coverage:

Recommended: 2.9.F, 2.3.A

Related: 2.8.D, 2.8.E

Game Name	Game Description
Bricks	Arrange the shapes to create the composite shape shown.
Count Blocks	Learn how to calculate the area and perimeter of a rectangle.
Create Rectangle	Construct a rectangle with a given area and/or perimeter.
Create Multiple Rectangles	Multiply whole numbers using an area model.
Bird Brain	Find birds in a grid after a sequence of transformations.

Shapes

Standards Coverage:

Recommended: 2.8.C

Related: 2.8.A, 2.8.B

Game Name	Game Description
Pick Geometric 2D Attributes	Learn the names and number of sides of different polygons.
Prisms and Cylinders	Pick the shape that is the base of a given prism.
Pick Geometric 3D and 2D Attributes	Identify the number of sides and vertices on two-dimensional shapes.
Match Shape Symbolic	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Shape Types Symbolic	Identify the given polygon.
Pick Geometric Shapes 2D Symbolic	Learn the names and number of edges of different polygons.

Represent Numbers to 1000

Standards Coverage:

Recommended: 2.2.A, 2.2.B

Game Name	Game Description
Place Value Builder	Identify the digit values of given whole numbers using place value based models. This game covers expanded notation and place value concepts up to the tens place while enforcing the skills of reading and writing whole numbers.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the tens place while enforcing the skills of reading and writing whole numbers.
Place Value Pushers	Identify the digit that is in the ones, tens, or hundreds place of a whole number. The student also learns the numerical and word representations for each place.

Partitioning into Equal Shares

Standards Coverage:

Recommended: 2.3.A

Related: 2.3.B, 2.3.C, 2.3.D

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Equal Division	Divide blocks into equal parts.
Match Partition	Match the partitioning of two rectangular blocks.
Pie Monster	Implicitly add two shaded regions together.

Creating Graphs

Standards Coverage:

Recommended: 2.10.B

Related: 2.10.A, 2.10.D

Game Name	Game Description
Attribute Grid	Identify attributes of an object including size, color and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Bar Graph Bridge	Construct bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge 2	Construct bar graphs for a data set given as single observations or in a table.

Using Money

Standards Coverage:

Recommended: 2.5.A

Related: 2.5.B

Game Name	Game Description
Identify Coin	Choose or count out the coin amount whose value is equal to the given amount.
Buy Items	Choose the monetary amount needed to purchase a given item.
Toll Bridge	Count out multiple coin and bill combinations whose value is equal to the given amount.
Toll Bridge Multiple Choice	Amongst various distractors, choose the correct combination for the given amount.

Math Challenge 2

Game Name	Game Description
Unknowns with Addition	Solve addition problems with unknowns in varying positions and on either side of the equal sign.
Unknowns with Subtraction	Solve subtraction problems with unknowns in varying positions and on either side of the equal sign.
Unknowns with Equations	Model and solve mixed operation problems with unknowns in varying positions and on either side of the equal sign.
Estimate on Number Line	Use the number line to estimate length.
Rolling Equations	Find the missing length needed to reach JiJi.
Shape Types Symbolic with Rectangles and Quadrilaterals	Identify the given polygon.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
Fair Sharing	Determine how many boxes each creature gets, when given a description of an equal sharing situation.
How Many Creatures	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.

Challenge 2

Game Name	Game Description
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Money Place Value

Game Name	Game Description
Skip Counting Amounts	Develop skip counting strategies when identifying and counting coins.
Two-Digit Amounts	Use skip counting strategies with monetary amounts within one dollar.
Buy Items	Choose the monetary amount needed to purchase a given item.
Money Place Value	Express a whole number using currency and place value concepts.

Partitioning Symbolic

Game Name	Game Description
Crank Pies	Identify equivalent fractions using both circular and rectangular diagrams.
Equivalent Fractions	Identify equivalent fractions using rectangular diagrams displaying equal parts of a whole.
Fraction of Shape Symbolic	Determine the word best describing the shaded region (fourth, half, whole, etc). Select how many of these 'units' are present.
Match Fraction Symbolic	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Crank Pies Symbolic	Determine the word best describing the shaded region (fourth, half, whole, etc). Select how many of these 'units' are present.

OPTIONAL OBJECTIVES

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
2.2.A	Use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones. **Recommended: Place Value to 1,000; Adding and Subtracting Tens and Hundreds; Place Value Bundles - Ten and Hundred; Addition and Subtraction within 100; Represent Numbers to 1000**
2.2.B	Use standard, word, and expanded forms to represent numbers up to 1,200. **Recommended: Place Value to 1,000; Adding and Subtracting Tens and Hundreds; Place Value Bundles - Ten and Hundred; Addition and Subtraction within 100; Represent Numbers to 1000**
2.2.C	Generate a number that is greater than or less than a given whole number up to 1,200. **Recommended: Place Value to 1,000** *Related: Skip Counting; Comparing Three-Digit Numbers; Adding and Subtracting Tens and Hundreds*
2.2.D	Use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols. **Recommended: Comparing Three-Digit Numbers** *Related: Place Value to 1,000*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
2.2.E	Locate the position of a given whole number on an open number line. **Recommended: The Number Line; Comparing Three-Digit Numbers; Operations on the Number Line; Counting to 1,000; Adding and Subtracting Tens and Hundreds**
2.2.F	Name the whole number that corresponds to a specific point on a number line. **Recommended: The Number Line; Comparing Three-Digit Numbers** *Related: Counting to 1,000; Adding and Subtracting Tens and Hundreds*
2.3.A	Partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words. **Recommended: Intro to Arrays; Partitioning into Equal Shares**
2.3.B	Explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part. *Related: Partitioning into Equal Shares*
2.3.C	Use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole. *Related: Partitioning into Equal Shares*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
2.3.D	Identify examples and non-examples of halves, fourths, and eighths. *Related: Partitioning into Equal Shares*
2.4.A	Recall basic facts to add and subtract within 20 with automaticity. **Recommended: Addition and Subtraction Situations; Operations on the Number Line; Two Step Situations**
2.4.B	Add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations. **Recommended: Addition and Subtraction Situations within 100; Adding and Subtracting Tens and Hundreds; Using Place Value to Add and Subtract; Addition and Subtraction within 100**
2.4.C	Solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms. *Related: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Adding and Subtracting Tens and Hundreds; Using Place Value to Add and Subtract; Model Addition and Subtraction within 1000; Addition and Subtraction within 100*
2.4.D	Generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000. *Related: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Adding and Subtracting Tens and Hundreds; Model Addition and Subtraction within 1000*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
2.5.A	Determine the value of a collection of coins up to one dollar. **Recommended: Using Money**
2.5.B	Use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins. *Related: Using Money*
2.6.A	Model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined. **Recommended: Even and Odd Numbers**
2.6.B	Model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets. **Recommended: Even and Odd Numbers**

AR - Algebraic Reasoning

Standard	Objective(s)
2.7.A	Determine whether a number up to 40 is even or odd using pairings of objects to represent the number. **Recommended: Even and Odd Numbers**
2.7.B	Use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200. **Recommended: Adding and Subtracting Tens and Hundreds; Even and Odd Numbers**
2.7.C	Represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem. *Related: Addition and Subtraction Situations within 100; Operations on the Number Line; Two Step Situations*

GM - Geometry and Measurement

Standard	Objective(s)
2.8.A	Create two-dimensional shapes based on given attributes, including number of sides and vertices. *Related: Shapes*
2.8.B	Classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language. *Related: Shapes*
2.8.C	Classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices. **Recommended: Shapes**
2.8.D	Compose two-dimensional shapes and three-dimensional solids with given properties or attributes. *Related: Intro to Arrays*
2.8.E	Decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts. *Related: Intro to Arrays*
2.9.A	Find the length of objects using concrete models for standard units of length. **Recommended: Measurement; Addition and Subtraction with Measurement**

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
2.9.B	Describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object. *Related: Measurement*
2.9.C	Represent whole numbers as distances from any given location on a number line. **Recommended: Operations on the Number Line** *Related: The Number Line; Measurement*
2.9.D	Determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes. **Recommended: Measurement** *Related: Addition and Subtraction with Measurement*
2.9.E	Determine a solution to a problem involving length, including estimating lengths. **Recommended: Measurement; Addition and Subtraction with Measurement**
2.9.F	Use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit. **Recommended: Even and Odd Numbers; Intro to Arrays**
2.9.G	Read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m. **Recommended: Time**

DA - Data Analysis

Standard	Objective(s)
2.10.A	Explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category. *Related: Creating Graphs*
2.10.B	Organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more. **Recommended: Creating Graphs**
2.10.D	Draw conclusions and make predictions from information in a graph. *Related: Creating Graphs*

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Multiplication Concepts

Standards Coverage:

Recommended: 3.4.E

Related: 3.5.D, 3.4.K

Game Name	Game Description
How Many Legs	Find the correct number of shoes for each set of creatures by counting or, in later levels, multiplying.
Number Line Multiplication	Multiply whole numbers using a number line.
Build Expressions	Add and multiply whole numbers using visual models.
Repeated Expressions	Interpret a multiplication expression as repeated addition.

Division Concepts

Standards Coverage:

Recommended: 3.4.H

Related: 3.5.B, 3.5.D, 3.4.K

Game Name	Game Description
Set Split	Divide a set of objects into two equal subsets.
Fair Sharing	Determine how many boxes each creature gets, when given a description of an equal sharing situation.
How Many Creatures	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fair Sharing Symbolic	Determine how many boxes each creature gets and how many remain in an equal sharing game.
Build Expressions	Divide whole numbers by forming equal groups of dots.

Rounding Three-Digit Numbers

Standards Coverage:

Recommended: 3.2.C

Related: 3.4.B

Game Name	Game Description
Number Funnels Highest Place	Round two-digit numbers to the nearest 10 and three-digit numbers to the nearest 100.
Number Funnels Tens Place	Round two-digit and three-digit numbers to the nearest 10.

Multiplication and Area

Standards Coverage:

Recommended: 3.6.C, 3.6.D, 3.4.K

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Select	Calculate the area of rectangles using a formula.
Complete Box	Fill the space with unit squares - both standard and nonstandard shapes. Illustrate the additive nature of area.
Complete Box Fill	Given so many unit squares, determine the shape needed to hold those squares.

Properties of Multiplication

Standards Coverage:

Related: 3.4.G, 3.6.C

Game Name	Game Description
Distributive Fruits	Introduces distribution of multiplication over addition through visual models of groups of fruit.
Distributive Fruit Modeling	Select templates for distribution of multiplication to match visual models of groups. Complete distribution templates to represent visual models of groups and symbolic products.
Distributive Boxes	Apply the distributive property of multiplication to solve problems involving arrays and areas.
Multiplying By 10s	Model products of one digit and a multiple of 10 using visual, word, and symbolic representations.

Fraction Concepts

Standards Coverage:

Recommended: 3.3.A

Related: 3.6.E, 3.3.C, 3.3.D

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
Match Fraction	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Fraction of Shape	Create the symbolic notation for a fraction of an irregular shape.
Crank Pies	Represent fractions as equal parts of a whole using visual models.
Alien Bridge	Represent fractions as equal parts of a whole using visual models.

Fractions on the Number Line

Standards Coverage:

Recommended: 3.7.A, 3.3.A, 3.3.B

Related: 3.3.C, 3.3.D

Game Name	Game Description
JiJi Cycle Basket	Estimate the location of a fraction represented with a diagram on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
JiJi Cycle	Select the fraction corresponding to the marked point on the number line. The fractions are represented visually as equal parts of a circle.
JiJi Cycle Select Wheel Symbolic	Relate a collection of fractions to a single point on the number line.
Estimate Fractions on a Number Line	Estimate the location of fractions on the number line.
Fraction Trap	Estimate on a number line the location of fractions.
Bubble Fraction Trap	Write the fraction shown on the number line.

Fraction Equivalence and Ordering

Standards Coverage:

Recommended: 3.6.E, 3.3.A, 3.3.F, 3.3.H

Related: 3.3.B, 3.3.C, 3.3.D, 3.3.G

Game Name	Game Description
Fraction Bricks	Represent the same length using different partitionings.
Equivalent Fractions	Generate equivalent fractions using visual fraction models.
Number Line Trap	Estimate the location of the given fraction on a number line.
Fractions on Number Line	Estimate the location of the given fraction on a number line.
More or Less	Compare fractions with either the same numerator or same denominator using visual models.
Fraction Order Fill	Help Jiji cross the pit by ordering fractions from least to greatest.

Multiplication and Division Relationships

Standards Coverage:

Recommended: 3.5.D, 3.4.E, 3.4.F, 3.4.J, 3.4.K

Related: 3.5.B

Game Name	Game Description
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Leg Drape Symbolic	Multiply whole numbers using repeated addition.
Multiplication Facts	Practice multiplication facts. This game reinforces place value concepts as well by having students give their answers as tens and ones.
Build Expression	Divide whole numbers by forming equal groups of dots.
Multiplication Division Fact Family	Create related number sentences by selecting the correct numbers and operation. This game teaches multiplication and division facts and the inverse relationship between the two operations.
Number Line Division	Divide whole numbers and locate the quotients on a number line.
Select Box	Practice multiplication and division facts with missing factors, divisors, or dividends. Groups of boxes illustrate each fact.

Area and Perimeter

Standards Coverage:

Recommended: 3.6.C, 3.7.B

Game Name	Game Description
Perimeter Select	Calculate the perimeter of a variety of shapes including triangles, rectangles, parallelograms, and trapezoids.
Select Area Perimeter	Learn how to calculate the area and perimeter of a rectangle.
Area Perimeter Select Shape	Construct a rectangle with a given area and/or perimeter.

Multiplication Facts and Strategies

Standards Coverage:

Recommended: 3.4.E, 3.4.F, 3.4.G, 3.4.K

Game Name	Game Description
How Many Legs Multiplication Symbolic	Multiply whole numbers using repeated addition.
Multiplication Stacks	Identify the number that should be multiplied by the given number to obtain the given product.
Multiplication Facts	Practice multiplication facts. This game reinforces place value concepts as well by having students give their answers as tens and ones.
Multiplication Algorithm	Multiply multi-digit whole numbers by one-digit whole numbers using the standard algorithm.

Division Facts and Strategies

Standards Coverage:

Recommended: 3.4.E, 3.4.F, 3.4.H, 3.4.K

Game Name	Game Description
Area Divide	Divide the tiles into equal groups, with and without remainders. The correct answer is demonstrated using an area model.
How Many Creatures Symbolic	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fair Sharing Expression	Determine how many boxes each creature gets and how many remain in an equal sharing game.
Number Line Division	Divide whole numbers and locate the quotients on a number line.

Solve Two-Step Problems

Standards Coverage:

Recommended: 3.5.A

Game Name	Game Description
Pie Monster	Determine how many pies to add or subtract to the conveyer belt so two monsters can remove the crates blocking JiJi's path.
How Many Legs	Multiply whole numbers using repeated addition.
How Many Creatures	Multiply whole numbers using repeated addition.
Two Step Problems with Volume	Solve two-step addition, subtraction, multiplication, or division problems involving liquid volumes in beakers with a measurement scale.

Number Patterns

Standards Coverage:

Related: 3.4.E

Game Name	Game Description
Make It Linear	Identify the common difference in an increasing or decreasing arithmetic sequence represented in numerical form and with virtual manipulatives in order to extend a sequence of numbers or identify missing numbers in a sequence.
Hundreds Pit	Count by 2s, 5s, or 10s to fill the pit so JiJi can cross. Identify patterns in the counting sequence.
Multiplication Table Parts	Find locations in the multiplication table that correspond to multiplication facts with a given product. Investigate relationships between nearby rows and columns with puzzles that have multiple products.
Multiplication Pattern Strings	Multiply whole numbers using a place value model.
Pattern Machine	Extend increasing arithmetic sequences of numbers represented on a number line.

Place Value Bundles - Ten, Hundred, Thousand

Standards Coverage:

Recommended: 3.2.A

Related: 3.2.B

Game Name	Game Description
Intro to Building	Fill in the missing addend to make a sum of 100 or 1000.
Intro to Building 2	Fill in the missing addend to make a sum of 100 or 1000.
Petals Regrouping	Given a model of bouquets (hundreds), flowers (tens), and ones (individual petals), regroup in order to represent the total number of petals as a numeral in standard place value notation.
Petals Random Regrouping	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks to 100	Fill in the missing addend to make a sum of 100 or 1000.
Petals Random Regrouping Hundreds	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks to 1000	Fill in the missing addend to make a sum of 100 or 1000.

Addition and Subtraction with Regrouping

Standards Coverage:

Recommended: 3.4.A

Related: 3.4.B

Game Name	Game Description
Intro to Regrouping	Using the petals model, add two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Addition	Symbolically add two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.
Intro to Borrowing	Using the petals model, subtract two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Subtraction	Symbolically subtract two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.

Multiplicative Comparison

Standards Coverage:

Related: 3.5.C

Game Name	Game Description
Comparison Bridge Estimation	Use estimation to solve multiplicative or additive comparison problems. Differentiate between multiplicative and additive comparisons.
Comparison Bridge	Solve multiplicative or additive comparison problems.
Comparison Bridge Symbolic	Use language to solve multiplicative or additive comparison problems.

Time to the Minute

Standards Coverage:

Related: 3.7.C

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and write time on an analog clock.
Telling Time	Tell time on an analog clock and record the time on a digital clock.
Time on a Line	Read an analog clock to the quarter hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time Digital	Students read an analog clock to the quarter hour and record the time on a digital clock.

Intervals of Time

Standards Coverage:

Recommended: 3.7.C

Game Name	Game Description
Move Hands	Determine elapsed time between two specified times on analog clocks by relating the movement of the hour and minute hands to lengths of time.
Clock Monster Set Time	Set a clock to display the new time after a given amount of elapsed time from a specified time.
Clock Monster	Find the difference between times represented on separate analog clocks.
Clock Monster Symbolic	Find the difference between times represented on separate analog clocks.
Time Unroll	Determine elapsed time by selecting an appropriately sized gap that will fit the difference between two specified times.
Time Unroll With Clocks	Determine elapsed time by selecting an appropriately sized gap that will fit the difference between two specified times.
Clock Monster Timeline	Find the difference between times represented on separate analog clocks.
Clock Monster Timeline 2	Find the difference between times represented on separate analog clocks.

Mass and Volume

Standards Coverage:

Recommended: 3.7.E

Related: 3.7.D

Game Name	Game Description
Slinky Objects	Compare and order familiar objects by weight using a balance.
Slinky Weights	Compare and order objects by weight using a balance.
Slinky with Units	Weigh objects and compare weights using U.S customary units.
Arctic Volume Addition and Subtraction	Solve one-step addition and subtraction problems involving liquid volumes using beakers with a measurement scale.
Arctic Volume Multiplication and Division	Solve one-step multiplication and division problems involving liquid volumes using beakers with a measurement scale.
Helicopter Volume	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Volume Fill	Count cubes to determine the volume of a figure.

Shapes

Standards Coverage:

Recommended: 3.6.A, 3.6.B

Game Name	Game Description
Shape Types	Identify the given polygon.
Shape Types with Quadrilaterals	Identify the given polygon.
Pick Geometric Shapes 2D	Match the name of a two-dimensional shape with the number of vertices or edges it has.
Pick Geometric Shapes 2D Symbolic	Match the name of a two-dimensional shape with the number of vertices or edges it has.

Scale and Measurement in Graphing

Standards Coverage:

Recommended: 3.8.A

Related: 3.8.B

Game Name	Game Description
Bar Graph Bridge	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge 2	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.

Line Plots

Standards Coverage:

Recommended: 3.8.A

Game Name	Game Description
Soccer Dot Plots Fractions	Record whole number and fraction measurements on a number line to create a dot plot.
Dot Plot Dimension Intro	Identify which dimension of the given group of rectangles is represented by the dot plot shown.

Math Challenge 3

Game Name	Game Description
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Measurement Addition Subtraction	Apply addition and subtraction strategies to solve problems involving length measurements.
Add Sub Comparing Lengths	Measurment arithmetic problems.
Bouncing Shoes	Use repeated addition within the model to determine how many of one animal are needed to fill the given number of shoes.
Bouncing Shoes Symbolic	Use multiplication within the model to determine how many of one animal are needed to fill the given number of shoes.
Pie Monster	Represent the given fraction or whole number with circles divided into equal parts.
Pattern Machine	Generate numerical patterns on the number line by finding consecutive terms.
Which Parentheses	Identify where the parentheses should be placed to make the expression represent the given model.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
Estimate Fractions on the Number Line	Estimate the location fractions on the number line.
JiJi Cycle Select Wheel	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
JiJi Cycle Select Basket	Relate a collection of fractions represented with circular diagrams to a single point on the number line.

Challenge 3

Game Name	Game Description
Treasure Hunt	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

Patterns and Functions

Game Name	Game Description
Hundreds Pit	Skip count (by 2s, 3s, 5s, 9s, or 10s) to fill the pit so JiJi can cross. Identify patterns in the counting sequence.
Even or Odd	Learn the concept of even and odd numbers using a visual model.
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
Make It Linear	Identify the common difference in an increasing or decreasing arithmetic sequence represented in numerical form and with virtual manipulatives in order to extend a sequence of numbers or identify missing numbers in a sequence.
Helicopter	Determine how many helicopters are needed to transport blocks to fill a hole so JiJi can cross to the other side. Students explore the relationship between inputs and outputs using rates within a visual model.
Make It Linear Symbolic	Identify the common difference in an increasing or decreasing arithmetic sequence presented as a list and in a table in order to extend a sequence of numbers or identify missing numbers in a sequence.
Helicopter Symbolic	Determine how many helicopters are needed to transport blocks to fill a hole so JiJi can cross to the other side. Students explore the relationship between inputs and outputs using rates within a visual model.
Helicopter Table	Identify missing values in a table of values exhibiting a linear relationship.
Make It Linear Table	Identify the common difference in an increasing or decreasing arithmetic sequence presented as a list and in a table in order to extend a sequence of numbers or identify missing numbers in a sequence.

Temperature and Capacity

Game Name	Game Description
Thermometer	Learn to read the temperature on a thermometer.
Temperature Changes	Determine the temperature change by reading and comparing the temperature on two thermometers.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.

OPTIONAL OBJECTIVES

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area represenation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
3.2.A	Compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate. **Recommended: Place Value Bundles - Ten, Hundred, Thousand**
3.2.B	Describe the mathematical relationships found in the base-10 place value system through the hundred thousands place. *Related: Place Value Bundles - Ten, Hundred, Thousand*
3.2.C	Represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers. **Recommended: Rounding Three-Digit Numbers**
3.3.A	Represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines. **Recommended: Fraction Concepts; Fractions on the Number Line; Fraction Equivalence and Ordering**
3.3.B	Determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line. **Recommended: Fractions on the Number Line** *Related: Fraction Equivalence and Ordering*

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
3.3.C	Explain that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number. *Related: Fraction Concepts; Fractions on the Number Line; Fraction Equivalence and Ordering*
3.3.D	Compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b. *Related: Fraction Concepts; Fractions on the Number Line; Fraction Equivalence and Ordering*
3.3.F	Represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines. **Recommended: Fraction Equivalence and Ordering**
3.3.G	Explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model. *Related: Fraction Equivalence and Ordering*
3.3.H	Compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models. **Recommended: Fraction Equivalence and Ordering**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
3.4.A	Solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction. **Recommended: Addition and Subtraction with Regrouping**
3.4.B	Round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems. *Related: Rounding Three-Digit Numbers; Addition and Subtraction with Regrouping*
3.4.E	Represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting. **Recommended: Multiplication Concepts; Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies** *Related: Number Patterns*
3.4.F	Recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts. **Recommended: Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
3.4.G	Use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. **Recommended: Multiplication Facts and Strategies** *Related: Properties of Multiplication*
3.4.H	Determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally. **Recommended: Division Concepts; Division Facts and Strategies**
3.4.J	Determine a quotient using the relationship between multiplication and division. **Recommended: Multiplication and Division Relationships**
3.4.K	Solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts. **Recommended: Multiplication and Area; Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies** *Related: Multiplication Concepts; Division Concepts*

AR - Algebraic Reasoning

Standard	Objective(s)
3.5.A	Represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations. **Recommended: Solve Two-Step Problems**
3.5.B	Represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations. *Related: Division Concepts; Multiplication and Division Relationships*
3.5.C	Describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24. *Related: Multiplicative Comparison*
3.5.D	Determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product. **Recommended: Multiplication and Division Relationships** *Related: Multiplication Concepts; Division Concepts*

GM - Geometry and Measurement

Standard	Objective(s)
3.6.A	Classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language. **Recommended: Shapes**
3.6.B	Use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories. **Recommended: Shapes**
3.6.C	Determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row. **Recommended: Multiplication and Area; Area and Perimeter** *Related: Properties of Multiplication*
3.6.D	Decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area. **Recommended: Multiplication and Area**
3.6.E	Decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape. **Recommended: Fraction Equivalence and Ordering** *Related: Fraction Concepts*

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
3.7.A	Represent fractions of halves, fourths, and eighths as distances from zero on a number line. **Recommended: Fractions on the Number Line**
3.7.B	Determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems. **Recommended: Area and Perimeter**
3.7.C	Determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes. **Recommended: Intervals of Time** *Related: Time to the Minute*
3.7.D	Determine when it is appropriate to use measurements of liquid volume (capacity) or weight. *Related: Mass and Volume*
3.7.E	Determine liquid volume (capacity) or weight using appropriate units and tools. **Recommended: Mass and Volume**

DA - Data Analysis

Standard	Objective(s)
3.8.A	Summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals. **Recommended: Scale and Measurement in Graphing; Line Plots**
3.8.B	Solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals. *Related: Scale and Measurement in Graphing*

JOURNEY AND BONUS JOURNEY OBJECTIVES

Generating Patterns

Standards Coverage:

Recommended: 4.5.A

Game Name	Game Description
Pattern Wheel	Identify and extend patterns of different geometric shapes.
Pattern Machine	Generate numerical patterns on the number line by finding consecutive terms.
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
Pattern Machine Advanced	Find consecutive and non-consecutive terms for a numerical pattern.

Using Place Value

Standards Coverage:

Recommended: 4.2.B

Related: 4.2.A

Game Name	Game Description
Number Line Journey	Move left and right on the number line to locate the given number.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the millions place while enforcing the skills of reading and writing whole numbers.
Commas	Correctly place commas on large whole numbers and identify the place values of the points where the commas are placed.
Place Value Clouds	Identify the place value of a given digit of a whole number up to the millions place. The place values are expressed with the words or symbols for the powers of ten.

Rounding Whole Numbers

Standards Coverage:

Recommended: 4.2.D

Game Name	Game Description
Number Funnels	Round whole numbers to the nearest given place value. The game also teaches place value concepts up to the hundred thousands place.

Comparing Whole Numbers

Standards Coverage:

Recommended: 4.2.C

Game Name	Game Description
Large Number Comparison	Order whole numbers up to seven digits using the symbols for less than, greater than, and equal to.
Least Most Symbolic	Identify the least or greatest element in a set of whole numbers (up to six digits) and learn the meaning of the words “least” and “greatest”.
Large Number Comparison Symbolic	Order whole numbers up to seven digits using the phrases “less than”, “greater than”, and “equal to”.
Order Fill	Choose the numbers in order from least to greatest in order to fill the pit so JiJi can cross.

Mixed Numbers

Standards Coverage:

Recommended: 4.3.G

Related: 4.3.A

Game Name	Game Description
Match Fraction	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Alien Bridge	Use pies divided into fourths to create a fraction diagram to match the given one.
JiJi Cycle Select Wheel	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
Estimate Fractions on the Number Line	Estimate the location fractions on the number line.
Fraction Trap	Estimate on a number line the location of Fractions

Fractions - Equivalence and Ordering

Standards Coverage:

Recommended: 4.3.C, 4.3.D, 4.3.G

Related: 4.3.A

Game Name	Game Description
Equivalent Fractions	Generate equivalent fractions using visual fraction models.
Common Denominator Monster	Partion a fraction to create an equivalent fraction using models.
Common Denominator Monster Advanced	Partion fractions to create common denominators using models.
Fraction More or Less	Compare fractions with the same numerator or the same denominator using models.

Applying Area and Perimeter

Standards Coverage:

Recommended: 4.5.D

Related: 4.5.C, 4.8.C

Game Name	Game Description
Perimeter Select	Calculate the perimeter of a variety of shapes including triangles, squares, trapezoids, parallelograms, rectangles, and rhombuses.
Area Select	Calculate the area of rectangles using a formula.
Area or Perimeter	Calculate the area of rectangles using a formula.
Area Perimeter with Units	Learn the units for measuring area and perimeter and explore pairs of different rectangles with equivalent perimeters or areas.

Addition and Subtraction with Fractions

Standards Coverage:

Recommended: 4.3.E

Related: 4.3.F, 4.3.G

Game Name	Game Description
Alien Bridge	Learn the meaning of fraction addition using visual models.
JiJi Cycle Select Basket	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
Scale Fraction Addition and Subtraction	Add and subtract fractions and mixed numbers on the number line. The fractions and mixed numbers are presented using visual models.
Alien Bridge Symbolic	Add fractions with the same denominator. In some levels, students fill in the missing addend when given one addend and the sum.
JiJi Cycle Select Basket Symbolic	Relate a collection of fractions to a single point on the number line.
Crank Pies Addition and Subtraction Symbolic	Add proper and improper fractions with like denominators. This game extends the visual model of fractions to numeric representations.
Scale Fraction Addition and Subtraction Symbolic	Add and subtract fractions and mixed numbers with like and unlike denominators on the number line.
Pie Monster Symbolic	Represent the given fraction or whole number with circles divided into equal parts.

Multi-Step Problems Using 4 Operations (G4)

Standards Coverage:

Recommended: 4.4.H

Game Name	Game Description
Linear Transform	Select the number that will allow JiJi to cross to the other side. This game teaches the concept of equality through problems involving multiple operations.
Leg Drape Boots	Multiply whole numbers using repeated addition.
Leg Drape Creatures	Multiply whole numbers using repeated addition.
Multi-Step Mixed Operations with Volume	Solve multi-step mixed operation problems involving liquid volumes using beakers with a measurement scale.
Which Parentheses	Identify where the parentheses should be placed to make the expression represent the given model.

Lines of Symmetry

Standards Coverage:

Recommended: 4.6.B

Game Name	Game Description
Where is the Line of Symmetry	Identify lines of symmetry in a variety of shapes.
Symmetry Grid	Create figures that have bilateral symmetry using a grid to reflect shapes across the symmetry line.
Ice Caves	Shoot lasers through blocks of ice along lines of symmetry. Students identify line-symmetric and asymmetric figures.
Big Seed	Fill all the holes using colored tiles. A group of tiles of the same color can be unfolded along 8 symmetry axes. The color of tiles can also be changed.

Decimal Fractions

Standards Coverage:

Recommended: 4.2.E, 4.2.G, 4.3.G

Related: 4.2.H

Game Name	Game Description
Fraction Grid	Identify the fraction, equivalents of numbers using the given model.
Decimal Grid	Identify the decimal equivalents of numbers using the given model.
Fractions and Decimals Grid	Identify the decimal and fraction equivalents of numbers using the given model.
Number Line Trap	Estimate on a number line the location of tenths and hundredths in fraction and decimal form.
Addition on NL	Estimate on a number line the location of fourths and halves in fraction and decimal form.

Classifying Shapes

Standards Coverage:

Recommended: 4.6.A

Game Name	Game Description
Shape Names	Identify the given polygon.
Shape Types	Name shapes with 3 through 8 sides and identifying subcategories of triangles and quadrilaterals.

Addition and Subtraction Algorithm

Standards Coverage:

Recommended: 4.4.A

Game Name	Game Description
Arithmetic Number Line	Add and subtract whole numbers (up to five digits) and estimate sums and differences on a number line.
Addition and Subtraction Algorithm	Add and subtract whole numbers (up to five digits) using the standard algorithm.
Missing Digits	Fill in the missing digit(s) in a multi-digit addition or subtraction computation.

Multi-Step Addition and Subtraction Problems

Standards Coverage:

Recommended: 4.8.C

Game Name	Game Description
Multi-Step Adding and Subtracting Lengths	Solve multi-step addition and subtraction problems involving lengths of objects with unknowns in a varying positions.
Multi-Step Addition and Subtraction with Volume	Solve multi-step addition and subtraction problems involving liquid volumes using beakers with a measurement scale.

Comparing Decimals

Standards Coverage:

Recommended: 4.2.B, 4.2.E, 4.2.F, 4.2.H

Related: 4.3.G

Game Name	Game Description
What's the Number	Estimate on a number line the location of decimals and whole numbers.
Decimal Order Fill	Help JiJi cross the pit by putting one- and two-place decimals in order from least to greatest.
Decimal Comparison	Order decimals using place value-based methods and the symbols for less than, greater than, and equal to.

Lines and Angles

Standards Coverage:

Recommended: 4.6.A, 4.7.C

Related: 4.7.A

Game Name	Game Description
Parallel and Perpendicular Lines	Use visual icons to identify parallel and perpendicular lines, then apply those concepts to the terms perpendicular and parallel.
Acute Obtuse and Right Angles	Use visual cues to identify acute, obtuse and right angles, then apply those concepts to the terms acute, obtuse and right.
Identify Lines and Angles	Apply visual cues to identify a variety of lines and angles, then apply those concepts to their vocabulary terms.
Draw Lines and Angles	Draw lines or angles given prompt of vocabulary terms.
Do the Lines Intersect	Identify parallel, perpendicular, and intersecting lines within a given set of lines.
Line Capture	Fit a line to a set of points in the coordinate plane. In later levels, place a point in the plane so that it will be on the line through the given points.
Measuring Angles	Measure angles using a protractor and sketch angles of specified measure.

Addition and Subtraction with Decimals

Standards Coverage:

Recommended: 4.4.A

Game Name	Game Description
Place Value Align	Learn to align decimals before adding or subtracting.
Estimate Addition and Subtraction Number Line	Estimate sums and differences of whole numbers and decimals on a number line.
Place Value River	Identify which place to increase or decrease in order to obtain the second decimal from the first.
Arithmetic Algorithm	Add one- and two-place decimals using the standard algorithm.

Multi-Digit Multiplication

Standards Coverage:

Recommended: 4.4.C, 4.4.D, 4.4.H

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Multiplication	Multiply two-digit whole numbers using visual models.
Area Multiplication 2	Multiply two-digit whole numbers using visual models.

Multi-Digit Division

Standards Coverage:

Recommended: 4.4.E, 4.4.F, 4.4.H

Game Name	Game Description
Area Divide	Explore the concept of division using an array model to practice division facts.
Long Division	Divide multi-digit numbers by one-digit divisors using a visual model incorporating place value blocks. This game builds conceptual understanding of the division algorithm.
Long Division with Remainder	Divide multi-digit numbers by one-digit divisors with remainders using a visual model incorporating place value blocks.

Line Plots and Range

Standards Coverage:

Recommended: 4.9.A, 4.9.B

Game Name	Game Description
Soccer Dot Plots Eighths	Record fraction measurements on a number line to create a dot plot.
Dot Plot Dimension	Identify which dimension of the given collection of rectangles is represented by the dot plot shown.
What's the Range	Find the range of a list of whole numbers and bubble select to record the answer.

Measurement and Conversions

Standards Coverage:

Recommended: 4.8.B, 4.8.C, 4.2.E

Related: 4.8.A

Game Name	Game Description
Measure It	Measure the length of a gap in US customary units using a ruler.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.
Weight Conversions	Convert between pounds and ounces using visual scales. Enter converted values into a table.
Problem Solving With Mass	Solve multi-step situations involving weight conversions.

Math Challenge 4

Game Name	Game Description
Fraction Bricks	Represent the same length using different partitionings.
Fraction Trap	Estimate on a number line the location of fractions.
Pie Monster Fractions	Solve multi-step addition and subtraction problems with fractions and mixed numbers.
Pie Monster Symbolic	Fraction and mixed number problems.
Pie Monster Multi-Step	Multi-step fraction problems.
Bricks	Arrange the shapes to create the composite shape shown.
Shape Types	Identify the given polygon.
Missing Angle with Triangles	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.
Ice Caves	Shoot lasers through blocks of ice along lines of symmetry. Students identify line-symmetric and asymmetric figures.
Buy Items	Choose the monetary amount needed to purchase a given item.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Rate Objects	Find an equivalent rate to the one given.

Challenge 4

Game Name	Game Description
Bird Brain	Find birds in a grid after a sequence of transformations.
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Big Seed	Fill all the holes using colored tiles. A group of tiles of the same color can be unfolded along 8 symmetry axes. The color of tiles can also be changed.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Concentration Nums	Practice multiplication facts.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

OPTIONAL OBJECTIVES

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area represenation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

Factors and Multiples

Game Name	Game Description
Multiples	Identify multiples of a given whole number.
Factors	Identify factors of a given whole number.
Multiples and Factors	Identify factors or multiples of a given whole number.
Find the Primes	Identify which of the numbers in a given set are primes.
Prime Factorization	Find prime factorizations for given whole numbers using tree diagrams.
Prime Factorization Bubble	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.
Prime Factorization Bubble Symbolic	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
4.2.A	Represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. *Related: Using Place Value*
4.2.B	Represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. **Recommended: Using Place Value; Comparing Decimals**
4.2.C	Compare and order whole numbers to 1,000,000,000 and represent comparisons using symbols. **Recommended: Comparing Whole Numbers**
4.2.D	Round whole numbers to a given place value through the hundred thousands place. **Recommended: Rounding Whole Numbers**
4.2.E	Represent decimals, including tenths and hundredths, using concrete and visual models and money. **Recommended: Decimal Fractions; Comparing Decimals; Measurement and Conversions**
4.2.F	Compare and order decimals using concrete and visual models to the hundredths. **Recommended: Comparing Decimals**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
4.2.G	Relate decimals to fractions that name tenths and hundredths. **Recommended: Decimal Fractions**
4.2.H	Determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line. **Recommended: Comparing Decimals** *Related: Decimal Fractions*
4.3.A	Represent a fraction a/b as a sum of fractions 1/b, where a and b are whole numbers and b > 0, including when a > b. *Related: Mixed Numbers; Fractions - Equivalence and Ordering*
4.3.C	Determine if two given fractions are equivalent using a variety of methods. **Recommended: Fractions - Equivalence and Ordering**
4.3.D	Compare two fractions with different numerators and different denominators and represent the comparison using symbols. **Recommended: Fractions - Equivalence and Ordering**
4.3.E	Represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations. **Recommended: Addition and Subtraction with Fractions**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
4.3.F	Evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole. *Related: Addition and Subtraction with Fractions*
4.3.G	Represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. **Recommended: Mixed Numbers; Fractions - Equivalence and Ordering; Decimal Fractions** *Related: Addition and Subtraction with Fractions; Comparing Decimals*
4.4.A	Add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. **Recommended: Addition and Subtraction Algorithm; Addition and Subtraction with Decimals**
4.4.C	Represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15. **Recommended: Multi-Digit Multiplication**
4.4.D	Use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. **Recommended: Multi-Digit Multiplication**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
4.4.E	Represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations. **Recommended: Multi-Digit Division**
4.4.F	Use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. **Recommended: Multi-Digit Division**
4.4.H	Solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. **Recommended: Multi-Step Problems Using 4 Operations (G4); Multi-Digit Multiplication; Multi-Digit Division**

AR - Algebraic Reasoning

Standard	Objective(s)
4.5.A	Represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity. **Recommended: Generating Patterns**
4.5.C	Use models to determine the formulas for the perimeter of a rectangle (l + w + l + w or 2l + 2w), including the special form for perimeter of a square (4s) and the area of a rectangle (l x w). *Related: Applying Area and Perimeter*
4.5.D	Solve problems related to perimeter and area of rectangles where dimensions are whole numbers. **Recommended: Applying Area and Perimeter**

GM - Geometry and Measurement

Standard	Objective(s)
4.6.A	Identify points, lines, line segments, rays, angles, and perpendicular and parallel lines. **Recommended: Classifying Shapes; Lines and Angles**
4.6.B	Identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure. **Recommended: Lines of Symmetry**
4.7.A	Ilustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is 'cut out' by the rays of the angle. Angle measures are limited to whole numbers. *Related: Lines and Angles*
4.7.C	Determine the approximate measures of angles in degrees to the nearest whole number using a protractor. **Recommended: Lines and Angles**
4.8.A	Identify relative sizes of measurement units within the customary and metric systems. *Related: Measurement and Conversions*
4.8.B	Convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. **Recommended: Measurement and Conversions**

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
4.8.C	Solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. **Recommended: Multi-Step Addition and Subtraction Problems; Measurement and Conversions** *Related: Applying Area and Perimeter*

DA - Data Analysis

Standard	Objective(s)
4.9.A	Represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions. **Recommended: Line Plots and Range**
4.9.B	Solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. **Recommended: Line Plots and Range**

JOURNEY AND BONUS JOURNEY OBJECTIVES

Decimal Place Value

Standards Coverage:

Recommended: 5.2.A

Game Name	Game Description
Decimal Greenies	Identify and interpret the digit values of given decimals using place value-based models. This game covers expanded notation and place value concepts to the hundredths place while enforcing the skills of reading and writing decimals.
Decimal Greenies Bubble Select	Identify and interpret the digit values of given decimals using place value-based models. This game covers expanded notation and place value concepts to the hundredths place while enforcing the skills of reading and writing decimals.
Number Line Journey	Represent up to three-place decimals on a number line. Some levels require students to decide which direction to move in at each step to find the given number.
Decimal Place Value	Identify the digit values of given whole numbers and decimals using place value-based models. This game covers expanded notation and place value concepts while enforcing the skills of reading and writing whole numbers and decimals.
Decimal Place Value Pushers	Identify the place of a given digit within a decimal up to the thousandths place. The places are expressed with the words or symbols for the powers of ten.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the thousands place while enforcing the skills of reading and writing whole numbers.

Comparing with Decimals

Standards Coverage:

Recommended: 5.2.B

Game Name	Game Description
Decimal Comparison	Order decimals using place value-based methods and the symbols for less than, greater than, and equal to.
Least Most	Identify the least or greatest element in a set of whole numbers (up to four digits).
Decimal Order Fill	Help JiJi cross the pit by putting one-, two-, and three-place decimals in order from least to greatest.

Interpret Expressions

Standards Coverage:

Recommended: 5.4.F

Related: 5.4.B, 5.4.E

Game Name	Game Description
Complete Box	Write an expression to describe the area. Includes adding or deducting from the area and nonstandard shapes.
Multiplying with Parentheses	Learn the meaning of and how to simplify expressions involving variables and parentheses.
Which Parentheses	Identify where the parentheses should be placed to make the expression equal to the given value.

Rounding Decimals

Standards Coverage:

Recommended: 5.2.C

Game Name	Game Description
Number Funnels	Round decimals to the nearest whole number. The game also teaches place value concepts up to the hundredths place.
Decimal Number Funnels	Round decimals to the nearest given place value.

Patterns and Relationships

Standards Coverage:

Related: 5.4.C, 5.4.D

Game Name	Game Description
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
Pattern Machine	Generate numerical patterns on the number line.
Pattern Machine Rule	Build a rule that describes the relationship between terms in a sequence.
Linear Transform	Select the number that will allow JiJi to cross to the other side. This game teaches the concept of equality through problems involving multiple operations.
Linear Transform Table	Fill in the table with the missing inputs or outputs for a given linear function, or, in other levels, identify the function that corresponds to the given table of inputs and outputs.

Common Denominators and Equivalent Fractions

Standards Coverage:

Recommended: 5.3.H

Game Name	Game Description
Number Line Equivalence	Identify equivalent fractions using a number line model.
Fraction Grid	Write one- and two-place decimals as fractions with denominators of 2, 4, 10, or 100.
Common Denominator Intro	Partion fractions to create common denominators using models.
Pie Monster	Implicitly add two fractions together.

Adding and Subtracting Fractions with Unlike Denominators

Standards Coverage:

Recommended: 5.3.H

Game Name	Game Description
JiJi Cycle Select Basket	Estimate the location of a fraction represented with a diagram on the number line.
Fraction Robot Addition	Add proper and improper fractions with like and unlike denominators using rectangular diagrams displaying equal parts of a whole.
Scale Fraction Visual	Add and subtract fractions and mixed numbers on the number line. The fractions and mixed numbers are presented using visual models.
Alien Bridge	Learn the meaning of fraction addition using visual models.
Add and Subtract Unlike Denominators	Add and subtract fractions with unlike denominators by creating fractions with common denominators using a visual model.
Fraction Grid	Select a number of partitions on a given grid to represent the the sum or difference of two fractions.
Alien Bridge Symbolic	Learn the meaning of fraction addition using visual models.
Add and Subtract Unlike Denominators Symbolic	Add and subtract fractions with unlike denominators symbolically by creating fractions with common denominators.

Prime and Composite Numbers

Standards Coverage:

Recommended: 5.4.A

Game Name	Game Description
Multiples	Identify multiples of a given whole number.
Factors	Identify factors of a given whole number.
Multiples and Factors	Identify factors or multiples of a given whole number.
Find the Primes	Identify which of the numbers in a given set are primes.
Prime Factorization	Find prime factorizations for given whole numbers using tree diagrams.
Prime Factorization Bubble	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.
Prime Factorization Bubble Symbolic	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.

Multiplication Algorithm

Standards Coverage:

Recommended: 5.3.B

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Multiplication	Multiply two-digit whole numbers using visual models.
Multiplication Algorithm	Multiply multi-digit whole numbers by one-digit whole numbers using the standard algorithm.
Area Multiplication 2	Multiply two-digit whole numbers using visual models.

Division Algorithm Strategies

Standards Coverage:

Recommended: 5.3.C

Game Name	Game Description
Area Divide	Explore the concept of division using an array model to practice division facts.
Long Division	Divide multi-digit numbers by one-digit divisors using a visual model incorporating place value blocks. This game builds conceptual understanding of the division algorithm.
Long Division with Remainder	Divide multi-digit numbers by one-digit divisors with remainders using a visual model incorporating place value blocks.
Long Division Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors.
Long Division with Remainder Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors with a remainder.

Volume

Standards Coverage:

Recommended: 5.4.G, 5.4.H, 5.6.A, 5.6.B

Game Name	Game Description
Intro to Volume	Calculate the volume of a right rectangular prism and express it using metric or U.S. customary cubic units.
Helicopter Volume	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Helicopter Volume Symbolic	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Volume Fill	Calculate the volume of a right rectangular prism and express it using metric or U.S. customary cubic units.
Area, Perimeter, Volume Select	Calculate the volumes of rectangular and triangular prisms and express them using metric or U.S. customary cubic units.

Multiplying Fractions

Standards Coverage:

Recommended: 5.3.I

Game Name	Game Description
Alien Bridge	Learn to multiply fractions by a whole number using a visual model.
Alien Bridge Symbolic	Learn to multiply fractions by a whole number using a visual model. This game integrates the symbolic notation for recording the multiplication equation displayed in the visual model.
Unit Multiples	Multiply fractions and whole numbers using an area model.
Unit Multiplication on the Number Line	Multiply fractions and estimate the locations of the products on a number line.
Fraction Area	Multiply fractions and whole numbers using an area model.
Scalar Multiplication	Interpret multiplication as scaling (resizing) through estimation and reasoning about the relative size of factors and products.

Dividing Fractions

Standards Coverage:

Recommended: 5.3.J, 5.3.L

Game Name	Game Description
Area Divide	Divide whole numbers by unit fractions. The answers are demonstrated using an area model.
Linear Transform	Multiply and divide whole numbers by unit fractions. In the last level, identify the operation that will transform the first number into the second.
Select Blocks Per Critter	Fair share blocks amongst critters for questions with fractional answers or dividends.
Fraction Divisors	Divide a whole number by a unit fraction modeled by fair sharing of blocks.

Decimal Addition and Subtraction (G5)

Standards Coverage:

Recommended: 5.3.A, 5.3.K

Game Name	Game Description
Place Value Align	Set up addition and subtraction problems involving whole numbers and decimals by aligning their digits by place value.
Arithmetic Algorithm	Add one- and two-place decimals using the standard algorithm.
Estimate Addition and Subtraction Number Line	Compute and estimate sums and differences of whole numbers and decimals on a number line.

The Coordinate Plane

Standards Coverage:

Recommended: 5.8.A, 5.8.C

Related: 5.8.B

Game Name	Game Description
Coordinate Trap	Select the location of a coordinate pair on a coordinate grid.
Ordered Pairs	Name the coordinate pair for a given point located on a coordinate grid.
Line Capture	Fit a line to a set of points in the coordinate plane. In later levels, place a point in the plane so that it will be on the line through the given points.
Line Capture from Table	Represent the table of input and output values with a straight line in the coordinate plane.

Multiplying Decimals

Standards Coverage:

Recommended: 5.3.E

Related: 5.3.D

Game Name	Game Description
Money Multiplication	Multiply money amounts by whole numbers.
Multiplying Decimals	Multiply decimals by whole numbers.

Shapes and Properties

Standards Coverage:

Related: 5.5

Game Name	Game Description
Shape Names	Identify the given polygon.
Shape Types	Identify different types of triangles (equilateral, acute, etc.) and different types of polygons (rectangle, rhombus, etc).

Dividing Decimals

Standards Coverage:

Recommended: 5.3.G

Related: 5.3.F

Game Name	Game Description
Money Division	Divide whole dollar money amounts by whole numbers resulting in decimal money amounts.
Decimal Quotients	Divide whole numbers by whole numbers resulting in decimal quotients.
Dividing Dollars and Cents	Divide money amounts by whole numbers.
Dividing Decimals	Divide decimals by whole numbers.

Converting Measurements

Standards Coverage:

Recommended: 5.7

Game Name	Game Description
Rate Objects	Find an equivalent rate to the one given.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.
Weight Conversions	Convert between pounds and ounces using visual scales. Enter converted values into a table.
Problem Solving Mass Conversions	Solve multi-step situations involving weight conversions.
Unit Conversion	Convert between different units of time using a number line.

Line Plots Decimals and Mode

Standards Coverage:

Recommended: 5.9.A, 5.9.C

Game Name	Game Description
Soccer Dot Plots Eighths	Record fraction measurements on a number line to create a dot plot.
Mode Magnet Decimals	Identify the minimum, maximum, or mode value of a distribution of whole numbers and/or decimals shown in a dot plot.
Mode Is Most Decimals	Identify the mode of a given collection of decimal numbers.
Mean Height	Find the mean height of a collection of stacks of blocks, or the mean of a collection of numbers.
Mean Dot Plots	Find the mean of the values displayed in a dot plot.

Using Data and Graphs

Standards Coverage:

Recommended: 5.9.A, 5.9.C

Game Name	Game Description
Bar Graph Bridge	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge Table	Read a bar graph and answer questions about the data table used to construct the graph.
Pie Chart Fill Chart	Construct a pie chart from a data set given as observations or in a table.
Pie Chart Fill Data	Read a pie chart and create the table used to generate the chart.
Double Bar Graph	Explore double bar graphs by constructing graphs from a table of data. Read a double bar graph and fill in missing values in the data table.

Math Challenge 5

Game Name	Game Description
Build a Monster	Identify the ratio of the monster arms to monster mouths.
Wall Factory	Choose values for the variables to make the given expression represent the configuration of blocks in the ground.
Which Parentheses	Identify where the parentheses should be placed to make the expression equal to the given value.
Hungry Monsters	Apply multiplicative reasoning to solve multi-step multiplication and division problems.
Variable Stacks	Solve linear equations using a model in which the two sides of the equation are modeled as stacks that need to have equal height.
Scalar Multiplication	Interpret multiplication as scaling (resizing) through estimation and reasoning about the relative size of factors and products.
Frac Wall	Solve linear equations using a visual model.
Graph Path	Move the point along a straight line in a coordinate plane.

Challenge 5

Game Name	Game Description
Concentration Nums	Practice multiplication facts.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Bird Brain	Find birds in a grid after a sequence of transformations.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

OPTIONAL OBJECTIVES

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area represenation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

Angles

Game Name	Game Description
Wedge	Identify the objects that can be used to move the barrier. Triangles that are not oriented correctly will block JiJi's path since they cannot wedge themselves under the barrier.
Which Angle	Identify an angle as acute, obtuse, straight, or right when given its numerical or pictorial representation.
Missing Angle with Triangles	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.
Lines of Symmetry	Identify lines of symmetry in a variety of shapes.
Shape Types	Identify the given polygon.
Bricks	Arrange the shapes to create the composite shape shown.
Angle Sums	Find the sum of a polygon's interior angles by decomposing the polygon into a set of triangles and using the sum of interior angles fact for triangles.
Missing Angle with Quadrilaterals	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.

STANDARDS INDEX

NO - Number and Operations

Standard	Objective(s)
5.2.A	Represent the value of the digit in decimals through the thousandths using expanded notation and numerals. **Recommended: Decimal Place Value**
5.2.B	Compare and order two decimals to thousandths and represent comparisons using symbols. **Recommended: Comparing with Decimals**
5.2.C	Round decimals to tenths or hundredths. **Recommended: Rounding Decimals**
5.3.A	Estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division. **Recommended: Decimal Addition and Subtraction (G5)**
5.3.B	Multiply with fluency a three-digit number by a two-digit number using the standard algorithm. **Recommended: Multiplication Algorithm**
5.3.C	Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm. **Recommended: Division Algorithm Strategies**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
5.3.D	Represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models. *Related: Multiplying Decimals*
5.3.E	Solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers. **Recommended: Multiplying Decimals**
5.3.F	Represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models. *Related: Dividing Decimals*
5.3.G	Solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm. **Recommended: Dividing Decimals**
5.3.H	Represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operation. **Recommended: Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators**

continued on next page

NO - Number and Operations (continued)

Standard	Objective(s)
5.3.I	Represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models. **Recommended: Multiplying Fractions**
5.3.J	Represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as 1/3 divided by 7 and 7 divided by 1/3 using objects and pictorial models, including area models. **Recommended: Dividing Fractions**
5.3.K	Add and subtract positive rational numbers fluently. **Recommended: Decimal Addition and Subtraction (G5)**
5.3.L	Divide whole numbers by unit fractions and unit fractions by whole numbers. **Recommended: Dividing Fractions**

AR - Algebraic Reasoning

Standard	Objective(s)
5.4.A	Identify prime and composite numbers. **Recommended: Prime and Composite Numbers**
5.4.B	Represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity. *Related: Interpret Expressions*
5.4.C	Generate a numerical pattern when given a rule in the form y = ax or y = x + a and graph. *Related: Patterns and Relationships*
5.4.D	Recognize the difference between additive and multiplicative numerical patterns given in a table or graph. *Related: Patterns and Relationships*
5.4.E	Describe the meaning of parentheses and brackets in a numeric expression. *Related: Interpret Expressions*
5.4.F	Simplify numerical expressions that do not involve exponents, including up to two levels of grouping. **Recommended: Interpret Expressions**
5.4.G	Use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube (V = l x w x h, V = s x s x s, and V = Bh). **Recommended: Volume**

AR - Algebraic Reasoning (continued)

Standard	Objective(s)
5.4.H	Represent and solve problems related to perimeter and/or area and related to volume. **Recommended: Volume**

GM - Geometry and Measurement

Standard	Objective(s)
5.5	The student will a) estimate and determine the product and quotient of two numbers involving decimals; and b) create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals. *Related: Shapes and Properties*
5.6.A	Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible. **Recommended: Volume**
5.6.B	Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base. **Recommended: Volume**

continued on next page

GM - Geometry and Measurement (continued)

Standard	Objective(s)
5.7	The student will simplify whole number numerical expressions using the order of operations. **Recommended: Converting Measurements**
5.8.A	Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin. **Recommended: The Coordinate Plane**
5.8.B	Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane. *Related: The Coordinate Plane*
5.8.C	Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table. **Recommended: The Coordinate Plane**

DA - Data Analysis

Standard	Objective(s)
5.9.A	Represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots. **Recommended: Line Plots Decimals and Mode; Using Data and Graphs**
5.9.C	Solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot. **Recommended: Line Plots Decimals and Mode; Using Data and Graphs**